

REMARKS

Applicants respectfully request reconsideration and withdrawal of the outstanding Office Action rejections based on the following remarks.

Response to Rejections under 35 U.S.C. § 103

Claims 1, 4-6, 14-20, 34, 35, and 39 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Maclaren et al. (Chemical thinning of radiata pine, 1999) in view of Hacker et al. (U.S. 2001/0031704). The Examiner maintains that Maclaren discloses the use of imazapyr for the removal of undesirable Pinus tree species, specifically radiata pine. The Examiner acknowledges that Maclaren does not disclose treating coniferous plants with carfentrazone, but asserts that Hacker discloses the herbicidal combination A + B where A is selected from imidazolinones such as imazapyr and B is one or more herbicides including carfentrazone.

The Examiner asserts that Maclaren concludes it is possible that chemical thinning could achieve higher mortality rates than slashers and chainsaws at lower cost (page 22, col. 2, paragraph 3). The Examiner asserts that a specific period of time is not specified in the present claims. The Applicants respectfully disagree with these assertions because the Examiner is selecting a portion of Maclaren, which discusses the use of chemical thinning for terrain which is essentially impossible to reach by men with chainsaws or axes, and asserting that chemical thinning may be more successful in comparison. This only tells one of ordinary skill that chemical thinning is better than doing nothing at all or doing something extremely difficult and expensive. Furthermore, the Applicants do not dispute that chemical thinning was known to have merit, but that

emphasize that Maclaren does not demonstrate the method recited in independent claim 1, which requires that an effective amount of carfentrazone be applied to coniferous plants. Because Maclaren does not disclose or suggest the application of carfentrazone at all, Applicants submit that it is improper to use Maclaren as the base reference in rejecting a claim that requires the application of carfentrazone to coniferous plants. There is nothing in Maclaren that renders obvious the use of carfentrazone and the combination of Maclaren with Hacker, which relates to killing rice weeds, does not remedy the deficiency that Maclaren does not suggest the use of carfentrazone for killing pine.

With regard to the argument that Maclaren does not mention PPO-inhibitors, e.g., carfentrazone, which have a different mode of action, the Examiner asserts that Maclaren discloses thinning agents having various different modes of action and thus selecting herbicides with different modes of action would have been obvious. Applicants respectfully disagree because there is no suggestion in Maclaren to use carfentrazone at all, which is the only required compound in the method of independent claim 1. Thus, one of ordinary skill would not have obviously selected carfentrazone based on the disclosure in Maclaren because Maclaren does not relate to using carfentrazone.

With regard to the argument that Maclaren does not disclose that the treatment is successful and would have taught away from using chemical thinning to control coniferous growth, the examiner asserts that Maclaren discloses that a 95% kill rate may be sufficient for silvicultural purposes, but unacceptable for aesthetic reasons (page 19, col. 2, paragraph 3). It appears that the Examiner is asserting that Maclaren

has shown a 95% kill rate. Applicants submit that this is a completely erroneous assertion because 1) Maclaren does not experiment with imazapyr or carfentrazone and therefore does not actually show any plant killing at all with either of these compounds, 2) Maclaren was never able to achieve a 95% kill rate with any chemical thinning agent, and 3) the highest kill rate that Maclaren was able to achieve with other agents (neither of which are recited in the present claims) was 31.7% with glyphosphate gel after 2 years (Table 4) and 90% with metsulfuron (Table 2).

The Examiner asserts that it is the combination of Hacker and Maclaren that is at issue and that one of ordinary skill in the art would have made the combination of these references because Hacker discloses that the combination of carfentrazone and imazapyr is synergistic. Applicants respectfully disagree because Hacker does not actually show any experimental data for the use of a combination of carfentrazone and imazapyr, and synergism is a result that can only be determined experimentally based on specific experimental conditions, i.e., amounts of each ingredient, ingredient ratios, application rates, and the results are specific to the particular plants that are tested. Applicants submit that there is no way to obviously know of or expect synergism when combining these two untested compounds for use in killing coniferous plants, which are not even mentioned in Hacker. There is nothing in Maclaren that suggests to one of ordinary skill that the combination of carfentrazone and imazapyr would be synergistic when used to kill coniferous plants.

With regard to the argument that Hacker relates to foliar action and hence application to plants with larger leaves, the Examiner asserts that conifers have needle shaped leaves and that Hacker does not specify that the leaves be large. Applicants

submit that the combination of the references is also improper because Maclaren does not apply the agents to the leaves at all, but rather either via the “hack and squirt” method or the EZJECT® system, both of which require applying the chemical directly into the base of trees. The techniques of Maclaren are quite laborious and invasive, including the “hack and squirt,” which includes making a series of downward cuts in the bark around the entire circumference of the tree trunk and then treating the wound with the herbicide, the Sylvaxe Hypo Hatchet, which uses the same principle as “hack and squirt,” several injection techniques which require drilling holes in the stem and filling the holes with a herbicide and the EZJECT lance technique. Each of these techniques require individual treatment of each tree and are tedious, time-consuming, require special equipment and are costly. Thus, one of ordinary skill in the art would not expect that based on the negative results in Maclaren, even when using such an invasive poisoning technique, that a much more superficial technique such as spraying the leaves of rice weeds, as disclosed in Hacker, would be at all effective in killing coniferous plants.

The inventors of the present invention found that by using carfentrazone, time and cost can be dramatically reduced, as spraying leads to high control of conifer plants such as pine species and no elaborate techniques are required. Maclaren states that it is not known whether there are savings in man-hours when using chemical thinning instead of chainsaws. Consequently, the present specification demonstrates the exceptional benefit of the invention over the cited art.

Moreover, the combination of Hacker and Maclaren completely ignores the fundamental differences in the nature of coniferous plants and rice plants. While rice

plants are annual plants within the family of grasses wherein the majority of the plant is formed by the leaves (50–100 cm long and 2–2.5 cm broad), conifers are trees (which are perennials) and have needles with a very small surface compared to rice plant leaves and which account for a small portion of the tree as a whole. Thus, the morphology and susceptibility of coniferous plants to herbicidal treatment is completely different from that of rice plants. No evidence has been presented here to establish that one of ordinary skill would have obviously linked statements with regard to rice plants to coniferous plants. Thus, Applicants submit that the combination of Hacker and Maclaren is improper for the above reasons.

In view of the above, Applicants submit that the present claims are not rendered obvious by the cited art and that the combination of the cited references is improper. Applicants respectfully request that the rejections be withdrawn and the claims be allowed.

Conclusions

In view of the above amendments and remarks hereto, Applicants believe that all of the Examiner's rejections set forth in the Office Action have been fully overcome and that the present claims fully satisfy the patent statutes. Applicants, therefore, believe that the application is in condition for allowance.

The Director is authorized to charge any fees or overpayment to Deposit Account No. 02-2135.

The Examiner is invited to telephone the undersigned if it is deemed to expedite allowance of the application.

Respectfully submitted,

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